

ABSTRACT OF THE DISCLOSURE

The present invention provides a biomedical superelastic Ti-based alloy containing 5 to 40 at % of Nb that is an element for stabilizing β -phase of Ti, and containing Ti and unavoidable impurities as the residual part. Further, the present invention provides a biomedical superelastic Ti-based alloy with a composition having 5 to 40 at % of Nb, one or more elements selected from among 10at % or less of Mo, 15at % or less of Al, 10at % or less of Ge, 10at % or less of Ga, and 15at % or less of In, 30 at % or less of the sum total of one or more elements selected from among Mo, Al, Ge, Ga, and In, 60 at % or less of the sum total of Nb and one or more elements selected from among Mo, Al, Ge, Ga, and In, and Ti and unavoidable impurities as the residual part.

The present invention provides a method of manufacturing a biomedical superelastic alloy for preparing an ingot of a Ti-based alloy containing Ti and Nb as an essential element, or the Ti-based alloy further having one or more elements of Mo, Al, Ge, Ga and In and unavoidable impurities, performing a hot working and a cold working on the ingot, performing annealing subsequent to the cold working and further final cold working of 20% or more, and performing heat treatment at a temperature of 300°C or more.